

**Amendments to the Drawings:**

Attached are four sheets of drawings that include changes to Figures 6B, 14, 22B, and 22C. These sheets replace the original four sheets that included Figures 6B, 14, 22B, and 22C. The Examiner is respectfully requested to approve the amended drawings.

## REMARKS

In the Office Action, the Examiner objected to the specification and claims 1, 18, 21, and 22. The Examiner also rejected claims 1-5, 18, and 22-25 under 35 U.S.C. 102(e) as being anticipated by Allen et al. (U.S. Patent No. 6,574,779). Applicants respectfully traverse these rejections. Applicants note with appreciation that the Examiner indicated that claims 6-17 and 19-21 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants are canceling claim 25 and adding new claims 26-31. Accordingly, claims 1-24 and 26-31 will be pending after entry of this Amendment.

### **I. Amendment to the Specification and Drawings**

In this Amendment, Applicants have corrected four typographical errors in the drawings and three typographical errors in the specification. No new matter had been added, as all the corrections are supported by the discussion in the specification and by the illustrations in the figures. Specifically, Applicants moved a “From 615” transitional arrow that previously pointed to operation 660 in the flowchart illustrated in Figure 6B to now point to the operation 655. This change is supported by (1) the referenced transition from 615 to 655 in Figure 6A, (2) the discussion in the specification on page 34, lines 5-7, and (3) the discussion in the specification on page 34, lines 8-22, which provides the rationale as to why the process 600 of Figure 6 transitions to 655 from 615 and 645.

Applicants also corrected the description of the operation 1445 in Figure 14. This correction is supported by the description in the specification on page 51, lines 15-17. In addition, Applicants added a “From 2242” transitional arrow to operation 2228 on Figure 22B. This correction is supported by the description in the specification on page 72, lines 14-15. Applicants also corrected the numbering of operation 2246 in Figure 22C. This correction is supported by the description in the specification on page 72, lines 19-20.

In the specification on page 31, Applicants changed an inaccurate reference to a transition from 615 to 660 in Figure 6B, to an accurate reference regarding a transition from 615 to 655. As mentioned above, this change is supported by (1) the referenced transition from 615 to 655 in Figure 6A, (2) the discussion in the specification on page 34, lines 5-7, and (3) the discussion in the specification on page 34, lines 8-22, which provides the rationale as to why the process 600 of Figure 6 transitions to 655 from 615 and 645.

On page 72, line 13, Applicants have also changed "2242" to "2202." This is a reference number for the operation that the process 2200 of Figures 22A-22C performs to generate several graphs. As mentioned in the specification on page 65, line 1 to page 66, line 16, the process 2200 generates these graphs at 2202. *See also* page 70, lines 15-17. Finally, on page 73, lines 2-3, Applicants have changed "[a]fter 2244, the process ends," to "[a]fter 2246, the process ends." As shown in Figure 22C, the process 2200 ends after it completes the database tables; as specified in the specification, the process 2200 completes the database tables at 2246, which proceeds 2244 in Figure 22C. *See* page 72, lines 19-20.

## **II. Specification Objections**

In the Office Action, the Examiner objected to the abstract as exceeding the 150 word limit. Also, the Examiner objected to the hyperlinks and/or other form of browser-executable code in the specification. The specification has been amended in accordance with the Examiner's objections. Specifically, the abstract has been amended so as to not exceed the 150 word limit and the hyperlinks and/or other form of browser-executable code have been deleted from the specification.

## **III. Claim Objections**

In the Office Action, the Examiner objected to claims 1, 18, and 22 for informalities. Accordingly, Applicants have amended claims 1, 18, and 22 as suggested by the Examiner. The

Examiner also objected to claim 21 under 37 CFR 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. Accordingly, Applicants have amended claim 21 to place the claim in proper dependent form.

#### **IV. Rejections under 35 U.S.C. 102(e)**

In the Office Action, the Examiner rejected claims 1-5, 18, and 22-25 under 35 U.S.C. 102(e) as being anticipated by Allen et al. (U.S. Patent No. 6,574,779), hereinafter Allen. Applicants have cancelled claim 25. And in regards to the claims 1-5, 18, and 22-24, Applicants respectfully traverse.

Independent claim 2 recites a method for producing a circuit description of a design, the method comprising:

- a) from the design, selecting a candidate sub-network that includes multiple circuit elements;
- b) generating a parameter based on a set of output functions performed by the selected candidate sub-network;
- c) using the parameter to retrieve a replacement sub-network from a storage structure that stores replacement sub-networks; and
- d) replacing the selected candidate sub-network with the replacement sub-network in the design.

Applicants respectfully submit that Allen does not disclose, teach, or even suggest each limitation of claim 2. Specifically, Allen does not disclose, teach, or even suggest the separate operations of selecting a candidate sub-network that includes multiple circuit elements, generating a parameter based on a set of output functions performed by the selected candidate sub-network, using the parameter to retrieve a replacement sub-network from a storage structure that stores replacement sub-networks, and replacing the selected candidate sub-network with the replacement sub-network in the design.

For example, nowhere in Allen is the operation of generating a parameter based on a set of output functions performed by the selected candidate sub-network disclosed or suggested. In fact, an output function performed by a candidate sub-network is not even mentioned in Allen.

Further, the Examiner cites column 2, lines 49-52 for the proposition that Allen discloses replacing a selected candidate sub-network with a replacement sub-network in the design (where the replacement sub-network is stored in a storage structure that stores replacement sub-networks), as required in claim 2. Column 2, lines 49-52 of Allen state that the step of "renewing" includes substituting a recognized topological subgraph with a node representing the layout generator. The Examiner seems to imply that the "node" in Allen corresponds to the replacement sub-network of claim 2. However, nowhere in Allen is it disclosed or suggested that 1) the node is stored in a storage structure that stores nodes or 2) that the node is retrieved from the storage structure using a parameter, as required in claim 2. Applicants respectfully request that the Examiner specify the portion(s) of Allen that disclose these features of the node.

Applicants submit that Allen does not disclose, teach, or even suggest the separate operations of selecting a candidate sub-network that includes multiple circuit elements, generating a parameter based on a set of output functions performed by the selected candidate sub-network, using the parameter to retrieve a replacement sub-network from a storage structure that stores replacement sub-networks, and replacing the selected candidate sub-network with the replacement sub-network in the design, as required in claim 2. Applicants respectfully request that the Examiner specify the portion(s) of Allen that disclose each separate operation.

For the above reasons, Applicants respectfully submit that claim 2 is patentable over the cited art. Claims 3-5 and 18 are dependent upon claim 2 and are allowable for at least the same reasons as claim 2. Claim 1 contains the selecting, generating, using, and replacing limitations of claim 2 which Applicants submit are not disclosed, taught, or even suggested by Allen, as discussed above in relation to claim 2. As such, Applicants believe claim 1 is also in allowable form.

Amended independent claim 22 recites a computer readable medium storing a computer

program which when executed by a computer produces a circuit description of a design, the program comprising:

- a) a first set of instructions for selecting, from the design, a candidate sub-network that includes multiple circuit elements;
- b) a second set of instructions for identifying a set of output functions performed by the sub-network;
- c) a third set of instructions for retrieving, based on the identified set of output functions, a replacement sub-network from a storage structure that stores replacement sub-networks; and
- d) a fourth set of instructions for replacing the selected candidate sub-network with the replacement sub-network in the design.

Applicants respectfully submit that Allen does not disclose, teach, or even suggest each limitation of claim 22. Specifically, Allen does not disclose, teach, or even suggest instruction sets that select a candidate sub-network that includes multiple circuit elements, identify a set of output functions performed by the sub-network, retrieve a replacement sub-network from a storage structure that stores replacement sub-networks based on the identified set of output functions, and replace the selected candidate sub-network with the replacement sub-network in the design. For instance, an output function performed by a candidate sub-network is not even mentioned in Allen, as stated above. Applicants respectfully request that the Examiner specify the portion(s) of Allen that disclose each instruction set.

## **V. New Claims**

New independent claim 26 is a computer readable medium claim containing limitations that are similar to claim 2, and is allowable for at least the same reasons as claim 2. New claims 27-31 are dependent upon new claim 26 and are allowable for at least the same reasons as claim 26.

## **VI. Allowable Claims**

Applicants note with appreciation that the Examiner indicated that claims 6-17 and 19-21 would be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims. Claims 6-17 and 19-21 are not being rewritten at this time, however, since Applicants believe independent claim 2, upon which these claims are dependent, is allowable over the cited reference.

## **VII. Information Disclosure Statement**

Accompanying this Amendment is the 1449 form of an Information Disclosure Statement that Applicants are submitting concurrently with but separately from this Amendment. This Information Disclosure Statement lists and provides copies of several additional references for the Examiner's consideration. The Examiner is requested to make these documents of record. Also attached are second and third 1449 forms of Information Disclosure Statements that Applicants have submitted prior to submission of this Amendment but which Examiner has not yet made of record. The Examiner is requested to make these documents of record as well.

## CONCLUSION

Based on the foregoing remarks, Applicants believe that the rejections and objections in the Office Action of December 8, 2003 are fully overcome and that the application is in condition for allowance. If the Examiner has any questions regarding the case, the Examiner is invited to contact Applicants' undersigned representative at the number given below.

Respectfully submitted,

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